Improving Quality and Efficiency of Postpartum Hospital Patient Education Delivery

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Submitted in partial fulfillment of the
requirements for the degree of

Doctor of Nursing Practice

East Carolina University
College of Nursing

Finalized on 7/26/2021

Abstract

The impact of the coronavirus-19 pandemic is forcing hospitals around the world to organize care differently than before. In March of 2020, the target organization's Birthing Center was faced with the dilemma of closing their discharge classes and move towards individualized teaching while controlling length of stay. The focus of this quality improvement doctoral project was to evaluate the target organization's patient education delivery and streamline the education to improve bed turnaround time on a postnatal unit. A postpartum education checklist was developed and implemented across the length of stay of mother and baby. In lieu of the many challenges faced in delivery of care during the COVID-19 pandemic, the proposed education checklist improved workflow by reducing length of stay by more than one hour for the low-risk mothers and their newborns. In addition, quality care was demonstrated by improved nursing documentation of patient education in the electronic medical record of charts reviewed.

Keywords: nursing documentation, length of stay, patient education, discharge planning, discharge readiness, workflow, teach back

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Section 1: Introduction

The focus of this quality improvement doctoral project was to evaluate the target organization's patient education delivery and streamline the education to improve bed turnaround time on a postnatal unit. The bed turnaround time averages four to six hours for the target organization, measured from time of discharge placed to bed availability. The postpartum education delivery system has been challenged because of the covid-19 pandemic and streamlining is a necessity for quality patient care. Measurement of the quality of patient education is based on the teach back method. Teach back is a process in which the patient restates the key concept for self-management so the nurse can assess the effectiveness of the education intervention and the patient's learning capabilities (Peter et al., 2015). Efficiency of the nursing care deliverable is measured by bed turnaround time. The target organization monitors the bed turnaround time for the postnatal unit. The patient's readiness for discharge is multidimensional and involves readiness of the couplet (mother and newborn). The multidimensional approach is guided by Virginia Henderson's Needs Theory.

Background

A large academic medical center opened a non-profit Birthing Center in July 2019 to serve the Piedmont area of North Carolina. The mission of the target organization is to improve the health of our region by generating and translating knowledge to prevent, diagnose and treat disease, train leaders in health care and biomedical science and serve as the premier health system in our region with specific centers of excellence recognized as national and international care destinations (Wake Forest Baptist Health, 2020). In order to meet the needs of the community, deliverance of obstetrical services began in July of 2019 and immediately grew beyond expectations.

The opening of a new nursing unit brought many challenges. The introduction of a new patient population, new nursing staff and relatively short hospital length of stay poses many challenges in the deliverance of quality patient education. A discharge class was initially being taught to the patients on day of discharge by one assigned nurse. The discharge class was instructed over a one-hour time slot and provided the bulk of discharge education to the postpartum clients. In March of 2020, the coronavirus pandemic required closing the classroom instruction in order to avoid group gatherings. The workflow of the birthing center was greatly affected as the education piece was disseminated to the nursing staff for deliverance. Patient education delivery became a challenge for the birthing center in workflow, delivery and nursing documentation. Many of the nurses had relied solely on just a few nurses to teach the discharge class and to provide education for their patients. Nursing documentation of the interventions posed even more challenges along with consistency of information being delivered by the nursing staff. Time constraints for bed turn around and patient flow posed more challenges. The average bed turnaround time is 48 hours on the short stay unit, which poses demands on the staff to look for efficient ways to deliver quality care.

Organizational Needs Statement

The new mother is expected to demonstrate knowledge and confidence in the ability to care for herself and her newborn prior to discharge from the hospital (Benitz & Committee on Fetus and Newborn, 2015). Currently the delivery of postpartum education by classroom instruction has been dismantled because of the coronavirus restrictions. A new way of implementing a comprehensive and individualized education plan is the challenge for the birthing center. The amount of education that is mandated by regulatory agencies for the postpartum mother can be overwhelming for staff and the patient considering the brief hospital

stay after childbirth. Poor outcomes for the infant or family may result when a mother does not understand important self or newborn care prior to discharge. According to Healthy People, Leading Health Indicators for this patient population include reduction of infant deaths, safe infant sleep practices, strategies to keep child strategies safe, immunizations, and family planning (Office of Disease Prevention and Health Promotion, 2020). These issues and many more are addressed during the hospital stay at the birthing center and patient education is provided on the topics. Since the dismantling of the discharge class, streamlining patient education, documentation by the nursing staff and inconsistencies of teaching tools has been a challenge. Reducing the length of time (measured in hours) women spend in this hospital after birth implies that the staff and bed occupancy can be reduced. However, the cost savings may be reduced if quality and access to patient services are maintained or improved. According to the academic medical center's discharge time date, there is an average of four to six hours from time of discharge orders to actual patient time of leaving the unit. The goal of this project is to streamline the patient education process to improve the length of stay as measured in hours of bed turnaround time.

According to the Institute for Healthcare Improvement's (IHI) Triple Aim framework, the goal of the patient's experience is quality and satisfaction. Streamlining an education plan of care would offer a comprehensive patient education experience. By improving the deliverance of the patient education experience, the overall health of the population should improve. Finally, education often means better decision making for early detection of the abnormal and prevention which has the potential to reduce hospitalizations or readmissions (IHI, 2020a). Length of post-natal hospital stay demand consideration of multiple dimensions and the nursing intervention of patient education is an important factor to be addressed.

Problem Statement

The current state of the problem is inconsistencies among patient education delivery and teaching tools for the birthing center. The inconsistencies can be streamlined to improve bed turnaround time for the unit.

Purpose Statement

The purpose of this project was to streamline the patient education delivery process to improve the quality and efficiency of postpartum education during hospitalization.

Section II. Evidence

Literature Review

The electronic database CINAHL was searched for 2015-2020 academic journals. Search terms included “discharge planning”, “early patient discharge”, “organizational efficiency”, “patient discharge education” or “discharge efficiency”. The limitations were full text, academic journals 2015-2020 and academic peer reviewed journals. Levels of evidence were limited to level IV through VIII. This search resulted in 263 articles, which were narrowed down to four articles of relevance on the topic by using combinations of words with Boolean operators.

A second CINAHL search was performed with search terms “newborn” and “discharge teaching”. A total of four articles were resulted. One article met criteria for discharge education by using combination of words with Boolean operators.

A third CINAHL search was performed with terms “postpartum” and “discharge teaching”. Limitations of publication were within five years, USA publication in a peer reviewed academic journal and full text were applied. A sum of 338 journals resulted. Abstracts of the 338 journals were reviewed for relevancy of the quality improvement project topic and eliminating topics that did not apply to patient education delivery on a maternity unity. After review of each

abstract, two articles were deemed as related to the topic with level of evidence greater than IV. Appendix A highlights the evidence kept in support of patient education on a postpartum unit, delivery of education and bed occupancy.

Current State of Knowledge

According to the American Nurses Association (ANA), there are legal implications to hospital discharge and patient education (Neil, 2016). There is consensus that patient education is not only required but vital for good patient outcomes. The ANA requires education on medication management, nutrition and hydration, illness, treatments and symptoms, discharge orders concerning follow up, support services and when to seek appropriate treatment (Neil, 2016). The American Academy of Pediatrics (AAP) outlines discharge readiness for the newborn and provides guidance for the inpatient discharge process (Benitz & Committee on Fetus and Newborn, 2015). The American College of Obstetricians and Gynecologists (ACOG) have also developed a postpartum care plan for guidance on discharge readiness for the woman after delivery which outlines patient education recommendations (AAP & ACOG, 2017). The Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN; 2020) have outlined best practices on delivering and disseminating consistent messaging to patients to increase their recognition and response to life-threatening warning signs during the perinatal period.

Furthermore, adequate documentation of these safety measures and discharge education are imperative. The delivery of patient education is affected by factors such as patient population, length of stay and resources available. Streamlining the patient education process works best if tailored for the patient population's needs. Literature searches revealed various modes of delivery for patient education including discharge classes, videos, reading materials

paired with teach back methods are optimum for assessment of patient awareness (Centrella-Nigro & Alexander, 2017; Peter et al., 2015; Villamen & Berg, 2018; Wagner & Washington, 2016). Specific teach back methods or learning tools for the mother-baby dyad were not found in an exhaustive literature search (Peter et al., 2015).

Current Approaches to Solving Population Problem

A solution to the identified problem of education delivery is multidimensional and requires a multidimensional team approach. "Understanding factors influencing postpartum length of stay may minimize the adverse effects associated with comorbidities and complications" (Otterloo et al., 2018, p. 303). National statistics have traditionally focused on comorbidities associated with increased length of stay (Hamilton et al., 2020). In one study, researchers focused specifically on comorbidities and length of stay in the postpartum period, authors identified nursing efficiencies as an independent variable affecting length of stay and the need for the topic to be studied further (Blumenfeld et al., 2015) A thorough literature review uncovered a gap in the literature for length of stay on perinatal units and patient education process for discharge readiness.

Gray et al. (2016) created an inter-professional program to streamline the discharge process to occur by 1100 daily in order to reduce the disruption of patient flow caused by overcrowding in departments dependent on the availability of medical-surgical beds. Coordination among disciplines and departments addressed disruption in patient flow. Nursing staff were required to be educated about their responsibilities in facilitating discharges, including communication in handoff report between shifts. Night shift nurses were responsible for exploring barriers to discharge for the morning nurse. Discharge teaching and preparation such as for multidisciplinary evaluation or consultations began on night shift. Charge nurses were

asked to prioritize the discharge process, assisting clinical nurses with passing morning medications, obtaining orders or preparing discharge instructions. The program saw an increase of discharges by 1100 significantly increase. Limitation of the program was lack of standardization for patient census over time, including how specific diagnoses, admitting providers or other barriers affect the discharge time (Gray et al., 2016).

The target organization faces similar barriers to patient flow from the labor and delivery unit to the perinatal floor. As bed occupancy on the perinatal floor remains full, the labor and delivery beds await transfer. Bed turnover can be delayed for many reasons that cannot be controlled such as emergencies and diagnoses; however, a routine patient care delivery system can be developed with quality measures in place (Gray et al., 2016). Postpartum discharge planning begins from the moment the laboring mother is admitted to the hospital and ends at moment of discharge readiness. The perinatal hospital stay is a relatively short length of stay, which restricts the time allowed for nurses to educate the patient about herself and baby.

Furthermore, the IHI (2020b) and The Joint Commission (The Joint Commission; 2013) has charged hospitals leaders with the mitigating challenges to patient flow throughout hospital systems. Hospitals are required to maintain patient flow while providing safe quality care. The AWHONN (2020) authored a new standard to address perinatal emergencies and nursing education within their new Perinatal Safety standards. Patient education is imperative on life saving measures for mother and newborn prior to discharge.

Wagner and Washington (2016) used a convenience sample of postpartum mothers who were given preference to a discharge class or individual teaching. Wagner and Washington found individual teaching of postpartum instructions yielded higher patient satisfaction scores as opposed to a group setting. The target organization has moved from a group setting to one that is

individualized since covid-19 emerged. Villman and Berg (2018) utilized video instructions, developed by staff, which were found to improve patient satisfaction scores. There were several advantages listed to offering videos to patients including convenience for the patient, patient control and streamlining workflow (Villamin & Berg, 2018). The target organization has access to a library of video instructions, individual teaching tools and demonstration teaching by nurses for the maternity ward to implement for the patient to benefit from.

Currently, the targeted project site can develop several strategies for postpartum patient education. Individualized teaching plans with incorporation of various modes of patient education are possible. Those strategies include individualized teaching through videos, verbal instruction and written information. There is a great need for streamlining the patient education workflow in adaptation to the covid-19 pandemic and its restrictions for gatherings in a classroom setting. Given the need for nursing documentation, streamlining the patient education to flow with the electronic medical record would benefit the staff and patient. The electronic medical record can assist in a more thorough nursing documentation system. A team approach to patient education in order to improve patient flow can likely decrease bed occupancy times (Gray et al., 2016).

Evidence to Support the Intervention

According to the National Center for Health Statistics, there were over three million births in the United States in 2018, making maternity care a high-volume service (Centers for Disease Control and Prevention [CDC], 2017). TJC (2018) has health literacy requirements in Provision of Care Standard 02.03.01. This standard describes assessing the patient's learning needs and identifying patient education consistent to those needs. The patient education process

was interrupted by the covid-19 pandemic and a consistent quality patient education process was needed.

Furthermore, the IHI (2020b) and TJC (2013) has charged hospitals leaders with the mitigating challenges to patient flow throughout hospital systems. Hospitals are required to maintain patient flow while providing safe, quality care. The perinatal hospital stay is a relatively short length of stay which restricts the time allowed for nurses to educate the patient about herself and baby. Although average length of stay on the postnatal ward has fallen there is still pressure to make further reductions (Bowers & Cheyne, 2016).

Reducing the length of stay should not affect patient safety or quality of care. Earlier discharge results in more mothers and babies requiring quality patient education in a shorter period of time. Postpartum discharge planning begins from the moment the laboring mother is admitted to the hospital and ends at moment of discharge. Therefore, shared responsibility of the nursing staff is imperative and not to be done on day of discharge. A study of early postpartum discharge from a cesarean section explored patient's expectations and recommended that patient's be made aware early on about their anticipated length of stay and they be prepared before making a decision for release from the hospital (Knudson et al., 2020). Length of stay has been reduced substantially over the years, there is still pressure to make reductions in order to meet demands (Bowers & Cheyne, 2016). A team approach is necessary in reducing the length of time patients stay in the hospital and increasing bed occupancy.

Bradas et al. (2016), looked at short stay units in order to determine predictors of readmission rates. Evidence supports the importance of medical-surgical nurses to focus on streamlining care and discharging patients quickly. Further implications for nursing is to provide clear and concise discharge education in order to prevent 30-day readmissions. Nurses are in a

key position to directly reduce readmissions and promote timely discharges (Bradas et al., 2016). Postpartum nurses operate in the same manner as the short stay unit in the study. The quality improvement study enhanced the efforts of the staff in order to streamline workflow while providing quality care.

Evidence-based Practice Framework

The Nursing Need Theory developed by Virginia Henderson was used as a theoretical framework to assist the healthcare team in the discharge readiness processes as patients demonstrate care of self and newborn. Henderson's theory emphasized that all categories of healthcare personnel must constantly evaluate their roles and be ready to modify them for the common goal. Doctors, nurses, social workers, and others are in a fluid state all working towards the goal of healthy independence for the patient (Henderson, 1978, 2000). Virginia Henderson noted that the best healthcare is healthcare that is patient and family focused (Henderson, 2000). Henderson's Needs Theory was chosen because of the fluidity of the theory among the healthcare team and to demonstrate the theory's utilization from admission to discharge of the couplet.

In the birthing center, care begins with the laboring mother entering the hospital and the patient (mother) becomes the mother-baby dyad or couplet upon newborn delivery. The couplet's needs must be efficiently met to promote safety and readiness for discharge. Henderson contended in her theory that discharge planning is influenced by the family (George, 1995). Henderson's focus on care emphasizes assisting the patient with essential activities to maintain health and recover (George, 1995). Henderson's focus makes sense for a postpartum unit, whereas the focus is on recovering from a normal childbirth process for mother and baby (couplet). Whereas a couplet is two patients, the two are not separated during the

hospitalization. The couplet is recognized as having unique biological, psychological, social and spiritual needs (George, 1995). The Needs Theory bases the evaluation of each patient (couplet) according to "the speed with which, or the degree to which, he performs independently the activities that make for him a normal day" (Henderson, 1960, p. 27). This project focuses on efficiency; therefore, the sooner the couplet reaches success in meeting their individual needs, the sooner the couplet may be discharged.

The Needs Theory is unique and can easily be applied to the mentioned couplet. The couplet is the center of the care provided by the healthcare team with needs individualized in a teaching plan. In anticipation of discharge, the healthcare team must assure the couplet is ready. Henderson guides the nurse to assess the patient's or client's needs in 14 basic care component areas and be able to provide care. Henderson's concepts include basic human biological needs to "learn, discover or satisfy curiosity" which the team interprets as discharge teaching processes (Henderson, 1978, p.114). Before a couplet is discharged home, the 14 components are met by the couplet. Discharge readiness is determined when self-care and knowledge is demonstrated. The healthcare team utilizes Virginia Henderson's Needs Theory to promote efficiency in the new Birthing Center by addressing the patients Biological, Psychological, Social and Spiritual needs. The holistic approach of this fluid team promotes efficiency for discharge.

Ethical Consideration & Protection of Human subjects

In 2001, the Institute of Medicine (Baker, 2001) reported six characteristics of quality health care: it is safe, effective, patient centered, timely, equitable and efficient. The project meets the characteristics for an attempt to improve patient-centered care in a more effective, timely and efficient way and therefore is a quality improvement project. The project has been

reviewed by the Director of Nursing Research at the organization and determined to be quality improvement (see Appendix B).

According to section IV of the American Medical Association (Department of Health and Human Services: Agency for Healthcare Research and Quality, 2018). Principles of Medical Ethics, providers are required to safeguard patient confidences within the constraints of the law. Confidentiality in data collection would be upheld by eliminating patient identifiers in reporting. Access to the master lists are limited to the project leader, specific members of the quality improvement team and the organization's Clinical and Transitional Science Institute (CTSI). Files containing electronic data are password protected and encrypted. Furthermore, those that are involved in the focus groups are held to the standards of the Health Insurance Portability and Accountability Privacy Act of 1996 (U.S. Department of Health and Human Services, 2020). The targeted intervention was equal and equitious to all mothers delivering at the birthing center who are followed by the nurse practitioner. There is no potential harm to patients in the project.

The large academic center requires oversight of human subject research, but in general quality improvement projects are not under the jurisdiction of the Institutional Review Board (IRB). The academic center does not require the project to be submitted to their IRB for review (Wake Forest University Baptist Medical Center, 2021). However, a project proposal and completion of the Human Subject Protection Certification were required for submission for record keeping. The CITI certification was completed on December 31, 2019.

The organization's CTSI serves as support for quality improvement projects and acts as the organization's accrediting body for quality improvement projects. The project proposal was reviewed by CTSI to ensure that the project meets ethical standards. A formal review of the project proposal is sent to the academic's CTSI committee for approval on December 18, 2020.

Additional information was submitted on January 7, 2021 upon request of the eIRB application. On January 14, 2021 final IRB approval was granted. A formal letter was issued acknowledging the project approval (Wake Forest University Baptist Medical Center, 2021).

East Carolina University does not require quality improvement projects to be submitted to the University and Medical Center Institutional Review Board (UMCIRB). Once approval was obtained from the project leader's organization on January 14, 2021, the Quality Improvement Self Certification was completed and the organization's approval letter was submitted to East Carolina University for review. The project was reviewed by the School of Nursing's faculty and determined to be quality improvement. East Carolina University employs faculty who are available to assist in the determination and validation of human subject research and quality improvement if further assistance is needed through the department of the UMCIRB (East Carolina University, 2020). An approval letter from East Carolina University IRB was received on January 15, 2021 (see Appendix C).

Section III. Project Design

Project Site

Childbirth is the most common reason for hospitalization in women ages 18 to 44 years of age and annually approximately four million women are hospitalized for childbirth service (Otterloo et al., 2018). In 2019, an academic, not-for-profit teaching facility opened a birthing center in the Piedmont Area of North Carolina. The 30-bed maternity ward offers a full range of delivery options to mothers in the region. The unit is staffed with obstetricians, certified nurse midwives, nurse practitioners, family medicine providers and maternal fetal medicine specialists. The unit is supported by specialty nurses, aides and lactation consultants. The birthing center delivers approximately 3500 deliveries a year.

Population

The targeted project population are the registered nurses providing care on the maternity unit. There were approximately 70 registered nurses who were eligible to participate in the project. The nurses are primarily baccalaureate prepared. Evening shift nurses are primarily staffed by travel nurses. Travel nurses are nurses whom commit to a three to six-month assignment. There are less travel nurses on day shift, as day shift are comprised of the target organization's employed registered nurses. The day shift nurses are mostly holders of a registered nurse license less than five years. There are no nurses certified in the American Nursing Credentialing Center's Maternal Newborn Core certification.

Project Team

The project leader proposed changes to stake holders in the education process in order to address the quality of patient education and workflow efficiency. Stakeholders include staff nurses, staff educators, case managers, nurse managers, director of nursing, obstetricians, pediatricians, nurse practitioners and the medical director. The stake holders made recommendations for the changes; the next step was to address the proposed changes with the nurse leadership for the birthing center. Nurse leaders supported the recommendations and changes but wanted feedback from the birthing center's perinatal council. The perinatal council consists of nurse leaders from all hospitals across the organization's system, including smaller hospitals. A formal meeting was held on October 8, 2020, support for the project given with recognition that the efficiency and consistency of education must be addressed. A sub-committee was formed, which was made up of the lead researcher, staff educator, three members of nurse leadership from different hospitals, pediatric nurse practitioner, and a case manager. This sub-committee was assigned to work with the project lead in prioritizing and organizing timed

increments of patient education, which begins at time of newborn delivery and ends day of discharge.

Project Goals and Outcome Measures

The first desired outcome is to improve the quality of the discharge education process by streamlining patient teaching. A teach-back checklist of patient education topics was developed by the maternity unit's nurse practitioners and patient educators (Appendix E). The patient education topics are based on AWHONN, ACOG and AAP recommendations for patients to assure of safe discharge home. The workflow check list served the nurses several ways. First, it is a comprehensive list of teaching points that are timed interventions that correspond with the newborn's hours of life. This comprehensive list would improve communication among nurses and provide consistency of topics begin taught. Secondly, the comprehensive checklist would streamline the discharge education process as patients are taught necessary information consistently across their hospital stay. In order to assure the project is reaching its goals, weekly chart reviews would be administered. A target of 10 chart reviews by each auditor was the goal. There would be two auditors, the project lead and case manager. The chart reviews specifically focused on determining that the designated education was provided to the patient during each timeframe. The chart reviews would determine this by assessing the nurse's documentation of the patient's teach back performance. The checklist becomes part of the shift handoff between nurses. This improves communication among nurses as well. If an area of patient education was delayed, follow up from the incoming nurse would be expected. The checklists would be turned into the auditors by dropping them into a box upon the patient's discharge.

The second desired outcome was to improve timely discharge to increase bed availability. Aside from providing quality care, reducing the average length of stay is perceived as a way to

achieve efficiency. Length of stay has been a primary target metric for decades and is a way to optimize throughput. However, measuring just length of stay has its challenges, including staff work burden (Sharma et al., 2017). As day shift nurses are often organizing both admissions and discharges, the night shift nurses have admissions only. A key concept in health systems management is "throughput". Throughput is the number of patients served per unit of time. Sluggish throughput is associated with increased healthcare system costs and can reduce hospital revenue (Sharma et al., 2017). For example, if the burden of workload is present on days, it could delay discharge time but not necessarily cause an appreciable increase in length of stay. However, by decreasing bed availability there can be an increase of throughput. The nurse manager would assist in providing the bed throughput rate and length of stay rates for the maternity unit. The data would then be compared to pre-intervention months of the corresponding prior year. It is expected that a decrease throughput would be the outcome.

Description of the Methods and Measurement

The birthing center is one year old and pre-intervention data collection is limited. Quality patient education has been interrupted by the closure of group education sessions on day of discharge from the maternity unit. Chart reviews would be performed weekly and primary data collected by two consistent project participants. The chart audit instrument used for chart review would determine by nursing documentation what education was taught and if it correlated with the timeframe set forth by the checklist (see Appendix D). Success would be measured by the percentage of nurses documenting their patient education during the timeframes. Goal for participation is greater than ≥80%. Primary data would also be collected through chart reviews of identified outliers to determine cause of the extended stay. The chart reviews were to determine if the time increments were followed, removing any outliers which could be delayed

by complex emergencies. Complex emergencies are defined as infant loss, preeclampsia, newborn complications or conditions which would potentially extend length of stay.

Length of stay is thought to be a major indicator for measuring quality of care. Early postpartum discharge appears to be safe in controlled studies with quality education and a follow up discharge plan (Lefevre et al., 2019). Primary data is readily available to compare length of stay as measured in hours. The project lead would be using the length of stay data from first quarter 2020 (January to April) for comparison with first quarter 2021 data (January to April). Furthermore, inpatient throughput optimization is about supply and demand. Optimizing the supply of open beds to ensure there are as many beds available during peak demand period is important. Therefore, the project lead would measure the current time of day discharge is occurring compared to after the intervention is applied. Currently, the average time of day is 1600 for discharges. This time of day overlaps admissions coming into the unit. The goal of the workflow change is to improve that time by two hours.

Discussion of the Data Collection Process

The first step to determining quality patient education is occurring is to perform random chart audits. Those chart audits would be completed using REDCap software. REDCap software is a secure web application for building, managing and storing surveys and audits. The REDCap software was provided by the target organization's Institute of Translational Science at no cost to the project team. The REDCap database is secure and web based. Training was provided by the institution at no cost and was completed by the project lead and case manager. Twenty charts would be randomly selected from the maternity ward weekly for audit. All chart audits would be recorded within the REDCap database. The chart audits would focus on the compliance of the nurse's completion of teaching points at the designated timeframe by identifying nursing

documentation. The chart audits would take place from January to April, 2021. The chart audits would be calculated as a percentage for compliance. The compliance would be looked at in Plan-Do-Study-Act cycles (PDSA). The PDSA cycles allow the project leader to observe results and act upon what is learned.

Quality metric data for length of stay would be provided monthly to the project lead by the EPIC team. The business manager can provide further data on the average time of day the patients are leaving the hospital, which provides throughput data. The data from both length of stay and throughput would be compared with the corresponding month from 2020. Month to month comparison would be made, comparing the seasonal data in order to accommodate patient census seasonality.

Implementation Plan

A checklist would be implemented across the Birthing Center system by February 15, 2021 through April 23, 2021. The discharge teaching checklist is a tool used by nursing and is handed off at shift change during report. Quality education is provided in methods of face to face interaction, video education and a discharge book. The checklist is a list of necessary topics to encourage discharge readiness. These changes included time increments for discharge teaching process.

On February 22, 2021 staff educators began disseminating talking points on the topics in the checklist. Those talking points were delivered to staff members by email and discussed in huddles at shift change. Charge nurses, staff educators and unit managers were available to staff to further explain topics upon request. The Director of Nursing made rounds with the staff during huddles to encourage use of the checklist and to reiterate quality education performance. A

follow up huddle on February 28, 2021 to remind staff of the checklist and resource for talking points were discussed.

On March 8, 2021, staff huddles led by management and the staff educators were held to further encourage documentation of the nurses' efforts. Postpartum teaching was discussed and resources were again reviewed. March 16, 2021 a detailed staff education module was sent via email to all nurses on the topic of postpartum hemorrhage. The topic is a component of the POSTBIRTH education initiative by AWHON. Within the email a reminder to nursing staff to document education on the topic and examples of documentation were explained. On March 22 care plans were introduced in the EPIC system. The nursing care plans support the documentation pieces of the education topics by providing a search of topic and checkbox for documentation of teach back method on the topic. On April 12, 2021 further education topics through modules on newborn care and temperature regulation (skin to skin) were introduced to the staff. Again reminders to document the education topics on the check list were emphasized.

The teaching increments include discharge teaching in the form of face to face, written information and videos available. Any or all of the patient education can be utilized based upon the nurse's assessment of the patient's needs. Timeframes for patient education are implemented beginning at the birth of the newborn and are divided up into four to eight hour time increments allowing ample time for the nurse to complete the patient education. A team of nurses, obstetricians and pediatricians have collaborated and prioritized the patient education to flow with the patient's recovery. The work list consists of the required patient education for discharge readiness. Discharge readiness is determined as the patient is capable of teach back of perinatal education for safe care of herself and her newborn. PDSA cycles would be assessed monthly to determine barriers to the implementation of the checklist. Results would be ascertained by the

project lead and shared with the project team and stakeholders on a monthly basis. Nurse management supports the project and emphasizes compliance with the checklist as a way to enhance workflow.

Section IV. Results and Findings

Results

The project followed low risk maternity patients from time of delivery to time of discharge. The time of delivery was recorded and the time of the nurse's documentation of the patient's discharge from the maternity ward was recorded. Patient records were audited for timeliness of postpartum education across the couplet's length of stay. Both mother and newborn records were audited for nursing documentation and the time of the documentation was compared to the time of delivery for timeliness. Nursing staff consisted of labor and delivery and postpartum registered nurses. Time of the project occurred across the patient's length of stay, which was anytime day or night and was unrestricted by weekend or weekday. High risk maternity patients requiring follow up by maternal fetal medicine or complicated deliveries were excluded from the project.

Outcomes Data

The average length of stay for the maternity patients was tracked and recorded. Comparison of seasonal data from 2020 was compared to 2021. Length of stay data from February 2020 to April 2020 was compared to the project's length of stay in time of day of discharge. Specifically, the length of stay data from 2020 revealed an average discharge time of 1600 on day of discharge. The project's goal was to reduce the discharge time of day by four hours. The project did not yield this goal; however, there was a decrease of the overall time of

day for discharge by approximately one hour. Within the quality improvement project's short period of time it is reasonable to expect this will continue to improve.

The second goal of the project was to improve the patient education process by streamlining topics for a consistent delivery. At the beginning of the project there was not a defined set of topics for patient education delivery. A checklist of patient education topics was used as a chart auditing tool for nursing documentation. One hundred twenty charts were reviewed over the course of eight weeks. Plan-Do-Study-Act (PDSA) cycles were performed over the study period and chart audits were continued in order to capture behavior changes in documentation. Over the course of the eight weeks the goal of >80% timeliness of documentation was not met; however, there was significant improvement of the presence of nursing documentation of new patient education topics in the patient record by approximately 40%.

Discussion of Major Findings

The patient education checklist encouraged communication amongst nurses involved in the project. The patient education checklist raised awareness of topics of patient education that were required for discharge readiness. The goal of reducing length of stay by four hours was not met, the reduction of length of stay averaged one hour and 10 minutes for the quality improvement project period. The teams worked closely to include the patient's education needs and made education needs part of the shift change hand off. Challenges during the project were a joint commission visit, staff turn-over, a new staff educator and a new nurse manager joined the team during the project's review time period. Additional challenges were streamlining the patient education pamphlets, patient education videos and care plans to correlate with the checklist of

patient education. The electronic medical record posed additional challenges for nursing documentation.

The electronic medical record posed the largest challenge to the project. A goal of the project was to improve nursing documentation of important and necessary patient education topics in order to meet discharge readiness of the patient. Most of the patient education topics were not built into the electronic medical record. The electronic medical record proved to need templates, care plans and teach back checklists in order to be useful for nurses. During the course of the quality improvement, registered nurses were asked to free text for documentation. Registered nurses' feedback concluded this to be cumbersome and may have contributed to the lack of documentation in the medical record. In order to solve this issue, the Information Technology department is currently building care plans for the patient education topics for the maternity ward. The improvement of the electronic medical record will likely serve as a key component to meeting future goals of >80% for nursing documentation of patient education topics.

The nurse practitioner-led nursing team approach in the care of patients on a mother baby unit utilizing a nursing communication tool (checklist) serves the workflow by improving efficiency. Communication of the tool was part of the nurse hand-off at shift change. Patient education needs were reassessed at each shift and necessary topics were covered by discharge. More than 60% of the topics outlined on the patient education checklist was evident by chart reviews of nursing documentation covered prior to discharge. Although the timeliness of the checklist was not followed as recommended, the content was covered by nurses prior to the patient's discharge. Therefore, quality improvement of the patient education process was successful.

Section V. Interpretation and Implications

Cost Benefit Analysis

The targeted project population are the registered nurses providing care on the maternity unit. The AIM statements are to reduce the average length of stay by four hours during the project, improve the patient education delivery by providing a consistent framework as evident in the nursing documentation and improve workflow efficiency in patient education delivery by registered nurses. The quality improvement project determined a workflow inefficiency and potential for maximizing patient education delivery. The implication of this project is to become a permanent part of the health care delivery for postpartum patients. Identification of measures to improve workforce efficiency can impact length of stay.

Resource Management

The Agency for Healthcare Research and Quality (AHRQ; 2020) reports childbirth as being in the top three most expensive conditions by payer. The cost of childbirth averages 16 million dollars annually (AHRQ, 2020). Having a routine vaginal delivery nationally averages at a cost of $13,800 (Mellilo, 2020). The implicit cost of overhead is positively affected by earlier patient discharges. Resources such as staff allocation, dietary and ancillary services are also examples of implicit costs relieved by an earlier patient discharge time.

The quality improvement project supports nurses to practice at the top level of practice by guidance to provide adequate and consistent patient education on the maternity unit. Their combined efforts have the potential to improve patient outcomes of the population. Studies support that a shorter length of stay does not necessarily correlate with poorer patient outcomes (Knudson et al., 2020). Thorough patient discharge education improves quality of care and can be associated with reduction of readmission to the hospital (Bradas et al., 2016). Improving the quality of care through patient education has the potential to reduce call backs to outpatient

clinics, readmissions, reduce mortality rates and improve patient satisfaction. Workflow efficiency has the potential to improve bed turnover and reduce patient wait times. The quality improvement project sheds light on a number of possibilities with the focus being on the importance of quality patient education delivery.

Implications of the Findings

Implications for Patients

For this quality improvement project, patient education was constructed, and education care plans developed over the course of the patient's hospital stay. A checklist of patient education topics was developed using expert recommendations and national guidelines for resources. An earlier discharge from the hospital can lead to improved patient satisfaction scores According to the Institute for Healthcare Improvement's (IHI; 2020a) Triple Aim framework, the goal of the patient's experience is quality and satisfaction which the project aligned with.

Implications for Nursing Practice

This quality improvement project focused on the intervention of a checklist and timely patient education delivery. Nursing workflow was affected by the use of the checklist. Registered nurses utilized the checklist beyond the study's expectations. The checklist was utilized as part of the shift report hand off and paper checklists revealed the checklist was heavily relied upon by the nurses. When comparing the paper checklist to the documentation in the patient's electronic medical record, the nurses often had written items as completed that were not in the patient's medical record. As stated earlier, the biggest barrier was ease of use of the electronic medical record.

The checklist revealed knowledge deficits amongst the nursing staff. Staff educators were able to better assess the learning needs of the staff with the checklist as a tool for gaging learning

needs of the staff. Staff educators used the topic list to develop teaching modules for the staff and talking points which were later incorporated into patient care plans. The checklist was a key component of streamlining the education process for staff nurses also.

Impact for Healthcare System(s)

Quality patient education is important to the inpatient experience and this quality improvement project demonstrated streamlining workflow can make a small impact on a patient's time in the hospital. Organization and timeliness of patient education delivery across the length of stay of a patient shares patient responsibility amongst all the nursing staff. The topics outlined are a guide not only for the patients but also for nurse educators to assess the staff's learning needs. Registered nurses teach topics they are comfortable with. The use of the checklist expanded topics and offered learning opportunities to grow the staff. This will remain a lasting effect from the quality improvement project.

Sustainability

The project will continue to be utilized. The quality improvement project shed light on many areas for improvement. The topics of the checklist will be used as a staff education guide for developing staff during orientation. The patient education checklist will continue to be part of the discharge process and patients are required to know the necessities on the checklist. The project's checklist was utilized, and the electronic medical record was lacking in several areas. Information technology is currently working with the project leader to develop a checklist which will be part of the patients' medical record with timely reminders for the nursing staff. It is expected utilization of the checklist in the electronic medical record will propel the nursing staff to meet the project's goal of >80% timely patient education delivery.

Dissemination Plan

The project findings will be disseminated through committee meetings with nursing leadership and stakeholders. Nursing staff will receive the data findings at huddle. The findings will be presented at the perinatal council meeting in July 2021 and the department's quarterly providers meeting August 2021. The project will also be presented to the Advanced Practice Provider's meeting at a date to be determined. The stakeholder and department's medical director has asked that the project findings be shared at a poster presentation for the medical center in October 2021. Further presentation submission will be made to the American College of Obstetricians and Gynecologists for 2022 at a date to be determined.

Section VI. Conclusion

Limitations

The quality improvement project took place over a period of eight weeks. Additional time for data collection would likely reveal ongoing improvement of timeliness of patient education delivery. Limitations during the quality improvement project period include staff turnover; a joint commission visit with readiness preparation and a staff educator vacancy during the project. Meeting times with nursing leaders were affected by preparation efforts for joint commission. The project took place during the covid-19 pandemic and staff absenteeism was high. Finally, limitations existed amongst the electronic medical record and its inability to document without free texting in the record.

Recommendations for Others

The postpartum patient education checklist is comprehensive and follows national guidelines for the recommendations of patient education topics (AAP & ACOG, 2017; Benitz & Committee on Fetus and Newborn, 2015; AWHONN; 2020). The checklist has a place in ongoing discharge planning and preparation for postpartum mothers and the nurses caring for

them. The patient education checklist will become part of the nursing orientation. Nursing education topics outlined in the checklist must be part of the nurse's ongoing development in order for patient care delivery to be impacted

Recommendations Further Study

The recommendation for future projects should include patient satisfaction scores related to the teaching process and discharge readiness. Further projects to determine how patient satisfaction is affected by the change in the discharge teaching process would be beneficial in evaluating the checklist intervention. Press Gainey questions concerning patient satisfaction have been updated to further investigate the patient's satisfaction of the workflow change.

The project leader further recommends data collection on non-English speaking population and patient education delivery. In the project, language barriers were an obstacle to timeliness of a patients' discharge instruction delivery. The non-English speaking population should be further investigated for thoroughness of patient education content and timeliness of its delivery.

Finally, additional projects on the topic of postpartum education delivery and discharge readiness are needed due to the gap in the literature on the subject matter. A thorough literature review revealed studies of workflow efficiency and discharge readiness in other specialties. However, few to no studies recognize the discharge readiness and nursing interventions to promote it. The care of the couplet is unique and poses unique challenges. Challenges to discharge readiness arise mainly because the couplet consists of two patients treated and viewed both individually and together. This quality improvement project sheds light on several opportunities for improvement in the overall discharge process for the low risk maternity couplet.

Final Conclusion

In conclusion, discharge planning is an integral part of patient care. Discharge readiness for mother and the newborn is important for the health of the couplet. The coronavirus pandemic of 2020 posed many challenges and continues to disrupt all aspects of hospital care, including discharge planning. The target organization responded quickly by developing a checklist to address the discharge teaching topics of mother and newborn after closing the nursing unit's discharge teaching class in order to abide by pandemic guidelines. In lieu of the nursing practice change, the length of stay was reduced for low risk mothers by at least one hour and nursing documentation of important topics improved in the patient record. Further evidence is needed to determine if the checklist will continue to reduce the length of stay and maintain or improve outcomes for patients.

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Appendix A

Literature Matrix

Authors	Year Pub	Article Title	Theory	Journal	Purpose and take home message	Design/Analysis/ Level of Evidence	IV DV or Themes concepts and categories	Instr. Used	Sample Size	Sample method	Subject Charac.	Comments/critique of the article/methods GAPS
AAP & ACOG	2017	Guidelines for perinatal care		*AAP & ACOG*	national guidelines	VII	**postpartum care recommendations and guidelines**	no				This resource is a combined effort of American Academy of Peds and American College of Obstetricians and Gynecologists. This national guideline is a reource to serve providers in perinatal and postpartum care.
Wagner, D. & Washingto n, C.	2016	Patient Satisfaction With Postpartum Teaching Methods	Cox's interaction model of client health behavior (IMCHB)	*The Journal of Perinatal Education*	"The purpose of this study was to determine the relationship between new mothers' interaction with nurses using different methods to provide postpartum teaching and their satisfaction with nursing care." The study compared one on one teaching to group teaching methods, as performed by their nurse at discharge.	Quantitative, Quasi-Experimental Level II	**DV: Patient Satisfaction, IV: Postpartum Teaching Methods**	Client Satisfaction Tool (CST, was modified to measure patient satisfaction on a postpartum unit, as opposed to the original which was to measure patient satisfaction in a senior center. The research claims an internal consistency reliability Cronbach's alpha (0.983)	104	convenience, sampling with informed consent and IRB approval	postpartum women that had an uncomplicated delivery vaginal birth or cesarean in a Northeast Florida Hospital that had a healthy newborn rooming in with them, and were at least 18,English speaking	The authors found that there were no significant differences in patient satisfaction among the two groups. Both groups were equally satisfied in their teaching methods, either group or individual. Limitations: small sample size, it was a convenience sample from one hospital, the sample was primarily white and lacked diversity to represent the general population. The study did not single out experienced moms versus new moms which could affect their needs for discharge teaching. Usefulness: The study is helpful to explore the best models for discharge teaching, which ultimately can improve discharge readiness. Synthesis: Implications for practice are to find the best outcomes for patients' while providing quality care. The idea of group teaching and individual teaching may improve efficiency in discharge planning and therefore, reduce hours of stay on a postpartum unit. In this study, there was no difference in the two teaching methods offered.

								after the modifications.				
Benitz, W.E. &	2015	Hospital stay for healthy term		*Pediatrics*	The committee developed milestones that the newborn	VII		Checklist created				The national committee updated their existing data on discharge readiness for the newborn immediately after birth.
Committee Centers for Disease	2020	newborn infants National center for health		*CDC*	must meet for discharge National vital statistics	VII						National vital statistics on mortality rates. Also includes comorbidities associated with readmissions.
ControlAWHON N	2020	statistics: Birth POST BIRTH warning signs education			national guidelines	VII		development of postpartum teaching tool, called POST-BIRTH				This resource provided a patient teaching tool for postpartum discharge. The acronym is" POST-BIRTH"
IHI	2020	Achieving Hospital Wide Patient Flow			Goals include improving hospital wide patient flow, avoid bottle-necking from ED	VII						Short stay hospitals are relying heavily on the through put and work flow of transferring and admitting patients. Bed occupancy can be affected by the efficiency of work flow.
IHI	2020	The IHI triple AIM initiative			to specialty unit. Decrease bed Goals associated with the triple AIM							National initiative to improve the patient experience, health population and reduce per capita cost in healthcare
Peter, et al	2015	reducing readmissions with teachback method		*Journal of Nursing Administration*	quality patient education can reduce readmission rates	IV						This article describes a quality improvement initiative, implemented by a patient education workgroup within a tertiary MagnetA facility. The project focused on the association between inadequate care transitions in patients with heart failure and subsequent costly readmissions. The teach-back initiative was piloted with patients hospitalized with heart failure, because of this population's high risk of readmission. Learning outcomes included documented improvements in patients' understanding of their disease and reduced readmission rates.

Appendix B

Target Organization IRB

MEMORANDUM

To: [redacted]

Nursing Research

From: [redacted]

Institutional Review Board

Date: 1/14/2021

Subject: Not Human Subjects Research: IRB00070693

Improving Quality and Efficiency of Postpartum: Hospital Patient Education Delivery

The [redacted] Institutional Review Board has reviewed your protocol and determined that it does not meet the federal definition of research involving human subject research as outlined in the federal regulations 45 CFR 46. 45 CFR 46.102(f) defines human subjects as "a living individual about whom an investigator (whether professional or student) conducting research obtains (1) data through intervention or interaction with the individual, or (2) identifiable private information."

The information you are receiving is not individually identifiable. In recent guidance published by the Office of Human Research Protections (OHRP) on the Guidance on Research Involving Coded Private Information or Biological Specimens, OHRP emphasizes the importance on what is being obtained by the investigator and states "if investigators are not obtaining either data through intervention or interaction

with living individuals, or identifiable private information, then the research activity does not involve human subjects."

Note that only the [redacted] IRB can make the determination for its investigators that a research study does not meet the federal definition of human subject research. Investigators do not have the authority to make an independent determination that a study does not meet the federal requirements for human subject research. Each project requires a separate review and determination by the Board. The Board must be informed of any changes to this project, so that the Board can determine whether it continues to not meet the federal requirements for human subject research. If you have any questions or concerns about this information, please feel free to contact our office at [redacted]

The [redacted] uted, has written procedures for initial and continuing review of clinical tria[redacted] and retains records pertaining to the review and approval process; all in compliance with requirements of FDA regulations 21 CFR Parts 50 and 56, HHS regulations 45 CFR 46, and International Conference on Harmonisation (ICH) E6, Good Clinical Practice (GCP), as applicable. WFSM IRB is registered with OHRP/FDA; our IRB registration numbers are IRB00000212, IRB00002432, IRB00002433, IRB00002434, IRB00008492, IRB00008493, IRB00008494, and IRB00008495.

WFSM IRB has been continually fully accredited by the Association for the Accreditation of Human Research Protection Programs (AAHRPP) since 2011.

Appendix C

East Carolina University IRB

Quality Improvement/Program Evaluation Self-Certification Tool

Purpose:

Projects that do not meet the federal definition of human research pursuant to 45 CFR 46 do not require IRB review. This tool was developed to assist in the determination of when a project falls outside of the IRB's purview.

Instructions:

Please complete the requested project information, as this document may be used for documentation that IRB review is not required. Select the appropriate answers to each question in the order they appear below. Additional questions may appear based on your answers. If you do not receive a STOP HERE message, the form may be printed as certification that the project is "not research", and does not require IRB review. The IRB will not review your responses as part of the self-certification process. For projects being done at Vidant Health, site support will be required. Please email crg.quality@vidanthealth.com to obtain site support from Vidant Health.

Name of Project Leader:

Athena Brummett

Project Title:

Improving Quality and Efficiency of Postpartum Hospital Patient Education Delivery

Brief description of Project/Goals:

Since the start of the covid-19 pandemic, discharge classes on the postnatal unit have ceased. Dissemination of patient education has been inconsistent among the staff, and often the day of discharge is when all of the teaching occurs. This is delaying patient's timely discharge from the perinatal unit. Delaying discharge also increases length of stay and decreases bed turnover rates. The purpose of the project is to streamline the patient education delivery amongst the patient's hospital stay in order to promote a timely discharge, reducing length of stay and improving bed turnover rates.

Will the project involve testing an experimental drug, device (including medical software or assays), or biologic?

- ○ Yes
- ● No

Has the project received funding (e.g. federal, industry) to be conducted as a human subject research study?

- ○ Yes
- ● No

Is this a multi-site project (e.g. there is a coordinating or lead center, more than one site participating, and/or a study-wide protocol)?

- ○ Yes
- ● No

Is this a systematic investigation designed with the intent to contribute to generalizable knowledge (e.g. testing a hypothesis; randomization of subjects; comparison of case vs. control; observational research; comparative effectiveness research; or comparable criteria in alternative research paradigms)?

- ○ Yes
- ● No

- [x] Yes
- [ ] No

Will the results of the project be published, presented or disseminated outside of the institution or program conducting it?

- [x] Yes
- [ ] No

Would the project occur regardless of whether individuals conducting it may benefit professionally from it?

Does the project involve "no more than minimal risk" procedures (meaning the probability and magnitude of harm or discomfort anticipated are not greater in and of themselves than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or tests)?

- [x] Yes
- [ ] No

Is the project intended to improve or evaluate the practice or process within a particular institution or a specific program, and falls under well-accepted care practices/guidelines?

- [x] Yes
- [ ] No

Based on your responses, the project appears to constitute QI and/or Program Evaluation and IRB review is not required because, in accordance with federal regulations, your project does not constitute research as defined under 45 CFR 46.102(d). If the project results are disseminated, they should be characterized as QI and/or Program Evaluation findings. Finally, if the project changes in any way that might affect the intent or design, please complete this self-certification again to ensure that IRB review is still not required. Click the button below to view a printable version of this form to save with your files, as it serves as documentation that IRB review is not required for this project. 1/7/2021

Appendix D

Chart Auditing Tool

	Mother's MR number
	Newborn MR number
	Delivery Date
	Delivery time
	Discharge date
	discharge time
	SVD
	Cesarean Section
	Circumcision performed
	Nursing Documentation of Education
Within the first 6 hours after delivery	Normal bleeding after delivery
	Caring for your perineum after delivery
	Keeping baby warm and skin to skin
	feeding your baby
	diaper changes and normal newborn poop
	breast care and signs of infection

	peeing and pooping after delivery
within the first twelve hours after delivery	Handwashing
	Signs of mother's illness
	mom's comfort plan at home
	baby safe sleep
	what to do when baby cries
within the first eighteen hours	eating right for new moms
	baby blues: how sad is too sad
	Recovery from my procedure (if applicable)
	car seat safety
within twenty four hours	Belly button stump care and bathing baby
	signs and symptoms that my baby is sick
	Wht if my baby is yellow?
	Activities I can and cannot do
day of discharge	Circumcision care
	Follow up care
	Save your life, POST_BIRTH warning signs

Appendix E

Mother Baby Patient Education Checklist

MOTHER-BABY EDUCATION

A guide to help you be ready to go home

Within the first SIX hours after delivery

☐ Normal bleeding after delivery (signs of too much, signs of infection)
☐ Caring for your perineum after delivery (stitches, hemorrhoids)
☐ Keeping baby warm and skin to skin time
☐ Feeding your baby
☐ Diaper changes and normal newborn poop
☐ Breast care, breastfeeding schedule and signs of infection
☐ Peeing after delivery, Pooping after delivery

Within the first TWELVE hours after delivery

☐ Hand washing and baby signs of illness
☐ Signs of mother's illness
☐ Mom's comfort plan at home
☐ Baby safe sleep
☐ What to do when baby cries, including swaddling

Within the first EIGHTEEN hours after delivery

☐ Eating right for new moms
☐ Baby blues, how sad is too sad
☐ Recovery from my procedure (if applicable)
☐ Car seat safety

Within the first TWENTY-FOUR hours after delivery

☐ Belly button stump care and bathing baby
☐ Signs and symptoms that my baby is sick
☐ What if my baby is yellow?
☐ Activities I can/ cannot do

Day of discharge

☐ Save your life, POST-BIRTH warning signs